

ABSTRACT OF THE DISCLOSURE

A high-throughput screening method for identifying the processing conditions for solid dispersion systems. This chemical screening method involves placing a series of different weight (molar) ratios of active ingredient to carrier molecule solutions on flat and reflective substrates, e.g., silicon chips, which are spun-cast and analyzed using various optical microscope and other spectroscopic techniques to determine the optimal dispersion system. Micrographs are taken and analyzed. The physical properties of the specific system are represented by plotting the data on a traditional X axis-Y axis chart to produce an equilibrium phase diagram of temperature versus active ingredient:carrier molecules. The micrographs are also used to produce mosaic phase diagrams as another way to analyze the data. The method and phase diagram are suitable analytical tools for determining optimum microscopic miscibility and chemical compatibility of various solutions.